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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/914,240 | 08/24/2001 | Vincent Bottreau | | 2045 |

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

AN, SHAWN S

ART UNIT PAPER NUMBER

2613

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,240

Applicant(s)

BOTTREAU ET AL.

Examiner

Shawn S An

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Restriction/Election

1. Applicants' election as filed on 3/30/04 elect without traverse, the species I depicted in Fig. 2, which reads on claim 1.

The requirement is deemed proper and is therefore made **FINAL**.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Puri et al (6,148,026) in view of Radha et al (6,292,512 B1).

Regarding claim 1, Puri et al discloses a video encoder comprising a base layer circuit and an enhancement layer circuit, and an encoding method based on triangular mesh representation, the encoding method comprising the following steps:

a base layer encoding step for receiving current images N-1 and N and a coarse mesh (Fig. 1B, 110; col. 2, lines 32-64); and

a first enhancement layer (Fig. 6A) for receiving the current image (VIDEO) and a reconstructed image (Decoded VOPS) obtained by adding to the MC image the motion residual image reconstructed from the coded error residual image, and for generating from the difference between the current image and the reconstructed image, a new error residual image for refining the mesh (Fig. 2B, 510 to 520) as input for a further level, the information concerning the mesh distortion being contained in motion vector MV1.

Puri et al does not particularly disclose another enhancement layer including similar operations, and the matching pursuit method being applied during each encoding step to the error residual image in view of the image texture information in the form of atoms.

However, merely adding another similar enhancement layer is considered an obvious feature for further enhancing the encoding/decoding process, thereby upgrading the quality of the video images.

Furthermore, Radha et al teaches the matching pursuit technique which can be applied during each encoding step to the error residual image in view of the image information (col. 7, lines 47-59).

Note: Further incorporating the base layer (110) to the enhancement layer (520) would produce generating from the difference between the current image and the reconstructed image, a new error residual image for refining the mesh (Mesh 1 from 110) towards a new mesh (Mesh 2 from 520) then taken as input for a further level, the information concerning the mesh distortion being contained in motion vector MV1 of 110.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing the encoding method as taught by Puri et al to incorporate the matching pursuit technique as taught by the Radha et al as a most efficient way to improve the quality of an encoding process.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

A) Kim et al (6,577,310 B1), 3D mesh coding/decoding method and apparatus for error resilience and incremental rendering.

5. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawn S An whose telephone number is 703-305-0099. The examiner can normally be reached on Flex hours (10).
7. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SHAWN S. AN
PATENT EXAMINER

SSA

Primary Patent Examiner

4/5/04